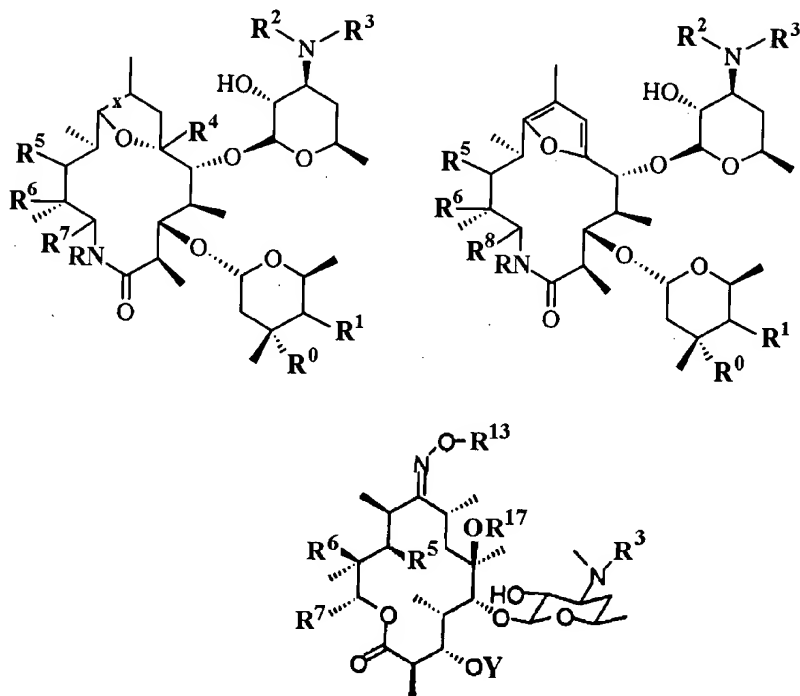


ABSTRACT

The present invention provides novel macrolide compounds of the formulas



and

5 wherein:

R is hydrogen, substituted C₁-C₁₀ alkyl, unsubstituted C₁-C₁₀ alkyl, substituted C₂-C₁₀ alkenyl, unsubstituted C₂-C₁₀ alkenyl, substituted C₂-C₁₀ alkynyl, unsubstituted C₂-C₁₀ alkynyl, substituted aryl, unsubstituted aryl, substituted alkylaryl, unsubstituted alkylaryl, substituted alkenylaryl, unsubstituted alkenylaryl, substituted alkynylaryl, or unsubstituted
10 alkynylaryl;

R⁰ is hydroxyl or methoxy;

R¹ is selected from the group consisting of hydrogen, hydroxyl, halide, NH₂, OR⁹,

OCR^9 , $\text{OCNR}^{10}\text{R}^{11}$, NCR^9 , and $\text{NCNR}^{10}\text{R}^{11}$ where R⁹ is substituted C₁-C₁₀ alkyl, unsubstituted C₁-C₁₀ alkyl, substituted C₂-C₁₀ alkenyl, unsubstituted C₂-C₁₀ alkenyl,

substituted C₂-C₁₀ alkynyl, unsubstituted C₂-C₁₀ alkynyl, substituted aryl, unsubstituted aryl, substituted alkylaryl, unsubstituted alkylaryl, substituted alkenylaryl, unsubstituted alkenylaryl, substituted alkynylaryl, or unsubstituted alkynylaryl, and R¹⁰ and R¹¹ are each independently hydrogen, substituted C₁-C₁₀ alkyl, unsubstituted C₁-C₁₀ alkyl, substituted C₂-C₁₀ alkenyl, unsubstituted C₂-C₁₀ alkenyl, substituted C₂-C₁₀ alkynyl, unsubstituted C₂-C₁₀ alkynyl, substituted aryl, unsubstituted aryl, substituted alkylaryl, unsubstituted alkylaryl, substituted alkenylaryl, unsubstituted alkenylaryl, substituted alkynylaryl, or unsubstituted alkynylaryl;

R² and R³ are each independently selected from the group consisting of hydrogen, substituted C₁-C₁₀ alkyl, unsubstituted C₁-C₁₀ alkyl, substituted C₂-C₁₀ alkenyl, unsubstituted C₂-C₁₀ alkenyl, substituted C₂-C₁₀ alkynyl, unsubstituted C₂-C₁₀ alkynyl, substituted aryl, unsubstituted aryl, substituted alkylaryl, unsubstituted alkylaryl, substituted alkenylaryl, unsubstituted alkenylaryl, substituted alkynylaryl, or unsubstituted alkynylaryl, or R² and R³ together form a cycloalkyl or an aryl moiety;

R⁴ is hydrogen or methyl;

R⁵ is hydroxyl or oxo;

R⁶ is hydrogen, hydroxyl, or OR¹² where R¹² is substituted C₁-C₁₀ alkyl, unsubstituted C₁-C₁₀ alkyl, substituted C₂-C₁₀ alkenyl, unsubstituted C₂-C₁₀ alkenyl, substituted C₂-C₁₀ alkynyl, or unsubstituted C₂-C₁₀ alkynyl;

R⁷ is methyl, unsubstituted C₃-C₁₀ alkyl, substituted C₁-C₁₀ alkyl, substituted C₂-C₁₀ alkenyl, unsubstituted C₂-C₁₀ alkenyl, substituted C₂-C₁₀ alkynyl, unsubstituted C₂-C₁₀ alkynyl, substituted alkylaryl, unsubstituted alkylaryl, substituted alkenylaryl, unsubstituted alkenylaryl, substituted alkynylaryl, or unsubstituted alkynylaryl;

R⁸ is unsubstituted C₁-C₁₀ alkyl, substituted C₁-C₁₀ alkyl, substituted C₂-C₁₀ alkenyl, unsubstituted C₂-C₁₀ alkenyl, substituted C₂-C₁₀ alkynyl, unsubstituted C₂-C₁₀ alkynyl, substituted alkylaryl, unsubstituted alkylaryl, substituted alkenylaryl, unsubstituted alkenylaryl, substituted alkynylaryl, or unsubstituted alkynylaryl;

R¹³ is hydrogen, unsubstituted C₁-C₁₀ alkyl, substituted C₁-C₁₀ alkyl, substituted C₂-C₁₀ alkenyl, unsubstituted C₂-C₁₀ alkenyl, substituted C₂-C₁₀ alkynyl, unsubstituted C₂-C₁₀ alkynyl,

alkynyl, substituted alkylaryl, unsubstituted alkylaryl, substituted alkenylaryl, unsubstituted alkenylaryl, substituted alkynylaryl, or unsubstituted alkynylaryl;

R¹⁷ is hydrogen or methyl;

x is a single or a double bond; and,

- 5 Y is hydrogen, substituted C₁-C₁₀ alkyl, unsubstituted C₁-C₁₀ alkyl, substituted C₂-C₁₀ alkenyl, unsubstituted C₂-C₁₀ alkenyl, substituted C₂-C₁₀ alkynyl, unsubstituted C₂-C₁₀ alkynyl, substituted aryl, unsubstituted aryl, substituted alkylaryl, unsubstituted alkylaryl, substituted alkenylaryl, unsubstituted alkenylaryl, substituted alkynylaryl, unsubstituted alkynylaryl, unsubstituted cladinose, or substituted cladinose.

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